CLAIM AMENDMENTS:

A listing of an entire set of claims 1-23 is submitted herewith per 37 CFR §1.121. This listing of claims 1-23 will replace all prior versions, and listings, of claims in the application.

1.-10. (Cancelled)

11. (New) A method of transmitting a spread spectrum signal, the method comprising:

using a first PN-code sequence to spread one of a lower bit rate product or a higher bit rate signal to a predetermined output chip rate for the spread spectrum signal; and

multiplying a lower bit rate signal and a second PN-code sequence to yield the lower bit rate product, wherein the lower bit rate product has a chip rate equal to a bit rate of the higher bit rate signal.

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12. (New) A method of recovering a spread spectrum signal having one of a higher bit rate signal spread by a first PN-code sequence or a lower bit rate signal spread by the first PN-code sequence and a second PN-code sequence, a lower bit rate product of the lower bit rate signal and the second PN-code sequence having a chip rate equaling a bit rate of the higher bit rate signal, the method comprising:

receiving and demodulating the spread spectrum signal;

successively correlating in a first operation the demodulated signal with the first PN-code sequence and then in a second operation with the second PN-code sequence;

determining if the higher bit rate signal is present in the spread spectrum signal by checking a presence of a first strong correlation peak in an output of the first operation and an absence of a correlation peak in an output of the second operation; and

determining if the lower bit rate signal is present in the spread spectrum signal by checking a presence of at least a weak correlation peak in the output of the first

operation and a presence of a second strong correlation peak in the output of the second operation.

13. (New) The method of claim 12, wherein the first operation and the second operation are carried in respective matched filters.

14. (New) The method of claim 13, wherein a running average of an output of the each matched filter is obtained in order to synchronize detection of one ore more correlation peaks in the output of the respective filter.

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15. (New) The method of claim 14, wherein the running average is determined in accordance with the equation:

$$\hat{x}_i^n = \alpha * \hat{x}_i^{n-1} + (1-\alpha) * \hat{x}_i^n$$

where x_i^n is an absolute value of a i th matched filter output sample in a n th databit period,

$\hat{x}_i^{n-1}$ is a corresponding i th sample running average at an end of a n-1 th databit period, and

α is and averaging gain and has a value between $0 \le \alpha \le 1$.

16. (New) The method of claim 15, wherein the averaging gain α has a value > 0.5.

17. (New) A spread spectrum communications system, comprising:

a transmitter for transmitting a spread spectrum signal, the transmitter including

a source of a higher bit rate signal having a higher bit rate,

a source of a lower bit rate signal having a lower bit rate,

means for multiplying the higher bit rate signal by a first PN-code sequence to give the spread spectrum signal a predetermined output chip rate, and

means for multiplying the lower bit rate signal by the first PN-code sequence and a second PN-code sequence to give the spread spectrum signal a predetermined output chip rate, wherein a lower bit rate product of the lower bit rate signal and the second PN-code sequence has a chip rate equal to the higher bit rate of the higher bit rate signal; and

a receiver including

means for receiving and demodulating the spread spectrum signal,

first correlation means for correlating the demodulated signal with the first PN-code sequence,

second correlation means for correlating an output from the first correlating means with the second PN-code sequence,

means for determining a presence of the higher bit rate signal in the spread spectrum signal by checking for a first strong correlation peak in the output of said first correlation means and an absence of a correlation peak in an output of the second correlation means, and

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means for determining the presence of the lower bit rate signal in the spread spectrum signal by checking for at least a weak correlation peak in the output of the first correlation means and a second strong correlation peak in the output of the second correlation means.

18. (New) The spread spectrum communications system of claim 17, wherein the first operation and the second operation are carried in respective matched filters.

19. (New) The spread spectrum communications system of claim 18, wherein the receiver further includes:

means for obtaining a running average of an output of each filter; and

means for determining synchronizing peaks in the respective running averages.

20. (New) A spread spectrum receiver for recovering a spread spectrum signal having one of a higher bit rate signal spread by a first PN-code sequence or a lower

bit rate signal spread by the first PN-code sequence and a second PN-code sequence, a lower bit rate product of the lower bit rate signal and the second PN-code sequence having a chip rate equaling a bit rate of the higher bit rate signal, the receiver comprising:

means for receiving and demodulating the spread spectrum signal;

first correlation means for correlating the demodulated signal with the first PN-code sequence;

second correlation means for correlating an output from the first correlating means with the second PN-code sequence;

means for determining the presence of the higher bit rate signal in the spread spectrum signal by checking for a first strong correlation peak in the output of said first correlation means and an absence of a correlation peak in an output of the second correlation means; and

means for determining the presence of the lower bit rate signal in the spread spectrum signal by checking for at least a weak correlation peak in the output of the first correlation means and a second strong correlation peak in the output of the second correlation means.

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21. (New) The receiver of claim 20, wherein the first operation and the second operation are carried in respective matched filters.

22. (New) The receiver of claim 21, further comprising:

means for obtaining a running average of an output of each filter; and

means for determining synchronizing peaks in the respective running averages.

23. (New) A spread spectrum transmitter for transmitting a spread spectrum signal, the transmitter comprising:

a source of a higher bit rate signal having a higher bit rate;

a source of a lower bit rate signal having a lower bit rate;

means for multiplying the higher bit rate signal by a first PN-code sequence to give the spread spectrum signal a predetermined output chip rate; and

means for multiplying the lower bit rate signal by the first PN-code sequence and a second PN-code sequence to give the spread spectrum signal the predetermined output chip rate, wherein a lower bit rate product of the lower bit rate signal and the second PN-code sequence has a chip rate equal to the higher bit rate of the higher bit rate signal.